

REPORT DOCUMENTATION PAGE				Form Approved OMB No. 0704-0188	
<small>Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to Washington Headquarters Service, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington, DC 20503.</small>					
PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.					
1. REPORT DATE (DD-MM-YYYY) 02-05-2013		2. REPORT TYPE Master of Military Studies Research Paper		3. DATES COVERED (From - To) September 2012 - April 2013	
4. TITLE AND SUBTITLE Prospective Contributions of Amphibious Operations to AirSea Battle				5a. CONTRACT NUMBER N/A	
				5b. GRANT NUMBER N/A	
				5c. PROGRAM ELEMENT NUMBER N/A	
6. AUTHOR(S) Micklis, Daniel W., Major, USMC				5d. PROJECT NUMBER N/A	
				5e. TASK NUMBER N/A	
				5f. WORK UNIT NUMBER N/A	
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) USMC Command and Staff College Marine Corps University 2076 South Street Quantico, VA 22134-5068				8. PERFORMING ORGANIZATION REPORT NUMBER N/A	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) N/A				10. SPONSOR/MONITOR'S ACRONYM(S) N/A	
				11. SPONSORING/MONITORING AGENCY REPORT NUMBER N/A	
12. DISTRIBUTION AVAILABILITY STATEMENT Unlimited					
13. SUPPLEMENTARY NOTES N/A					
14. ABSTRACT AirSea Battle envisions an answer to the early phases of an A2/AD conflict that is largely dominated by Air and Naval elements with a very limited role for Army or Marine Corpforces. By limiting the early A2/AD fight to a largely two-service engagement concept, AirSea Battle fails to take advantage of significant joint force capabilities that could contribute to an effective counter to the A2/AD threat. Specifically, Air Sea Battle envisions an antiaccess environment that overlooks historical precedents in both the character and conduct of the A2/AD fight. As a point of departure, the lessons of Guadalcanal provide good insight with respect to potential Marine Corps contributions to antiaccess defeat. Its unique characteristics make it an excellent case study for examining joint A2/AD defeat against a sophisticated high end A2/AD network. For the Marine Corps, it represents an opportunity to consider the specific influence of amphibious operations.					
15. SUBJECT TERMS Antiaccess, Area Denial; A2/AD; AirSea Battle; Amphibious Operations; Guadalcanal					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT UU	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON Marine Corps University / Command and Staff College
a. REPORT Unclass	b. ABSTRACT Unclass	c. THIS PAGE Unclass			19b. TELEPHONE NUMBER (Include area code) (703) 784-3330 (Admin Office)

*United States Marine Corps
Command and Staff College
Marine Corps University
2076 South Street
Marine Corps Combat Development Command
Quantico, Virginia 22134-5068*

MASTER OF MILITARY STUDIES

**PROSEPECTIVE CONTRIBUTIONS OF AMPHIBIOUS OPERATIONS TO
AIRSEA BATTLE**

SUBMITTED IN PARTIAL FULFILLMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF MILITARY STUDIES

Major Daniel W. Micklis, USMC

AY 12-13

Mentor and Oral Defense Committee Member: Benjamin Jensen, PhD
Approved: [Signature]
Date: 18 April 13

Oral Defense Committee Member: Rebecca Johnson
Approved: [Signature]
Date: 18 April 2013

DISCLAIMER

THE OPINIONS AND CONCLUSIONS EXPRESSED HEREIN ARE THOSE OF THE INDIVIDUAL STUDENT AUTHOR AND DO NOT NECESSARILY REPRESENT THE VIEWS OF EITHER THE MARINE CORPS COMMAND AND STAFF COLLEGE OR ANY OTHER GOVERNMENTAL AGENCY. REFERENCES TO THIS STUDY SHOULD INCLUDE THE FOREGOING STATEMENT.

QUOTATION FROM, ABSTRACTION FROM, OR REPRODUCTION OF ALL OR ANY PART OF THIS DOCUMENT IS PERMITTED PROVIDED PROPER ACKNOWLEDGEMENT IS MADE.

Table of Contents

	Page
Disclaimer	2
Table of Contents	3
Executive Summary	4
Introduction.....	5
Literature Review.....	8
Contextual Background	8
Key Concepts and Terms	9
AirSea Battle Concept.....	13
Marine Corps Perspective	16
Case Study	16
World War II Pacific Theater A2/AD Environment.....	17
Guadalcanal Contextual Background	18
Impacts of Coral Sea and Midway.....	19
Coral Sea.....	20
Midway	22
Implications.....	24
Operation Watchtower	26
Implications.....	28
Battle of Guadalcanal.....	28
Implications.....	32
Conclusion	33
Endnotes.....	36
Bibliography	38

Executive Summary

Title: Prospective Contributions of Amphibious Operations to AirSea Battle

Author: Major Daniel W. Micklis, United States Marine Corps

Thesis: In a future A2/AD conflict, Marine Corps amphibious capabilities will continue to play a part as an answer to defeating an enemy antiaccess strategy and has a role to play in AirSea Battle.

Discussion: AirSea Battle envisions an answer to the early phases of an A2/AD conflict that is largely dominated by Air and Naval elements with a very limited role for Army or Marine Corpforces. By limiting the early A2/AD fight to a largely two-service engagement concept, AirSea Battle fails to take advantage of significant joint force capabilities that could contribute to an effective counter to the A2/AD threat. Specifically, Air Sea Battle envisions an antiaccess environment that overlooks historical precedents in both the character and conduct of the A2/AD fight. As a point of departure, the lessons of Guadalcanal provide good insight with respect to potential Marine Corps contributions to antiaccess defeat. Its unique characteristics make it an excellent case study for examining joint A2/AD defeat against a sophisticated high end A2/AD network. For the Marine Corps, it represents an opportunity to consider the specific influence of amphibious operations.

Conclusion: In examining Operation Watchtower and its preceding battles, Coral Sea and Midway, several potential applications for Marine Corps contribution to AirSea Battle present themselves, to include: 1) Shaping Operations - The influence that Marine Corps expeditionary capabilities have on enemy course of action development when establishing their A2/AD network, 2) Interior Operations - The significant disruptive impact on enemy actions of Marine Corps forces forward deployed within the A2/AD network at the start of hostilities, 3) Denial Operations - The ability of rapidly mobile forces to prevent the expansion and development of an enemy A2/AD network, 4) Reduction Operations - The degradation of enemy A2/AD assets through localized dominance, 5) Peripheral Operations - Marine Corps forces operating at the edges and seams of an antiaccess theater can create gaps and opportunities throughout. In terms of applying Marine Corps capabilities to joint doctrine in regards to the antiaccess portion of A2/AD, AirSea Battle is the only concept that currently addresses it in detail. If Marine Corps amphibious capabilities are to be effectively integrated to antiaccess defeat then they should be significantly included in AirSea Battle.

Introduction

Since 2010, with the US Army and Marine Corps heavily engaged in Afghanistan, the US Navy and Air Force have been working towards redefining their roles in future warfare with the highly touted AirSea Battle concept. Similar to the AirLand Battle concept developed during the Cold War in response to the Soviet threat,¹ AirSea Battle was initially designed by Air Force and Navy proponents as a dual-service answer to a significant threat to future US interest. As stated in AirSea Battle: A Point-of-Departure Operational Concept, “The proliferation of Antiaccess/Area Denial (A2/AD) capabilities threatens traditional US methods of providing forward presence and projecting power.”² The AirSea Battle concept rests on the integration of Air Force and Navy operations against a high end A2/AD threat. With a focus on the Western Pacific Theater of Operations (WTPO), this integration is intended to offset adversarial A2/AD’s impact on US force projection capability.

AirSea Battle envisions an answer to the early phases of an A2/AD conflict that is largely dominated by Air and Naval elements and technology with a very limited role for the US Army or Marine forces.³ In doing so, AirSea Battle makes a clear delineation between the roles of Air and Naval forces during an envisioned antiaccess phase of an A2/AD fight and the role of US expeditionary forces during what it sees as follow on Joint Forcible Entry Operations.⁴ AirSea Battle foresees that, “[t]he workhorses of traditional US power-projection operations, to include ... amphibious forces ... will likely find themselves either sitting on the sidelines in the early stages of a conflict, or suffering high levels of attrition.”⁵ Similarly, it predicts, “[a]s long as that [anitaccess] threat is not considerably attenuated, these forces [To Include Surface Amphibious Platforms] effectively do not exist for operational purposes.”⁶

Perceiving the A2/AD threat and US operational response to it in such a linear manner ignores the historical facts of past A2/AD challenges in developing solutions to future dilemmas.

A2/AD strategies are interrelated problems that can occur simultaneously in time and space. As a result, the application of US military power during any phase of an A2/AD engagement must include the full spectrum of military capabilities. By limiting the early A2/AD fight to a largely two-service engagement concept, AirSea Battle fails to take advantage of significant joint force capabilities that could contribute to an effective counter to the A2/AD threat. This paper intends to study the historical impacts of amphibious operations on the early conflict phase of an A2/AD threat and draw potential correlations for application to Marine Corps contributions to AirSea Battle.

The unique characteristics of the Battle of Guadalcanal during initial phase of the Pacific Theater Campaign make it an excellent candidate for a historical case study on amphibious operations in an early A2/AD threat environment. This case was selected for the following reasons: 1) Despite Japanese losses at Coral Sea and Midway, the Japanese forces still held an A2/AD advantage at this point in World War II. In addition to a remaining numerical edge in ships and aircraft, the Japanese held the interior lines and maintained an in depth island chain defensive belt. 2) Occurring within 8 months of US involvement in a war that would last another three years, the Battle of Guadalcanal was still a very early operation in the overall conduct of the war. 3) Guadalcanal was a joint and coalition operation, allowing us to understand the synergistic effects of multiple service application of A2/AD reduction. 4) The operation was part of a larger theater campaign that reveals the effects of the battle on overall theater objectives. In addition, this allows us to observe the impacts of local area denial operations on overall antiaccess effects and vice versa. 5) The overall strategy of Imperial Japan shares a number of similarities with the US's closest near peer competitor, the Peoples Republic of China, in the Western Pacific Theater of Operations. These five criteria result in a case study that examines the effect of amphibious operations in the early phases of a fight against a high-end A2/AD threat

utilizing multi-service procedures. In addition, it brings to light the impact of intra-theater effects of counter A2/AD actions in the context of a sophisticated and complex A2/AD scenario.

The AirSea Battle Office has yet to release details of an updated concept since the publication of the initial point of departure piece by the Center for Strategic and Budgetary Assessments (CSBA) in May of 2010. Since that time, the Marine Corps has begun limited participation in AirSea Battle development with two field grade officers assigned to the AirSea Battle Office. Nevertheless, to date, the participation of the Marine Corps has not resulted in any substantial change in regards to the conduct of amphibious operations during the early stages of A2/AD threat reduction. However, the initial CSBA concept may hint at a potential significant contribution by amphibious forces in relation to possible peripheral operations. While the concept references “Securing Rear Areas,”⁷ there may be other objectives for peripheral operations to create opportunities for engaging, versus merely reacting to, A2/AD threat systems. Although AirSea Battle relies heavily on technology, a difficult choice in a fiscally constrained environment, maneuvers through peripheral amphibious operations could create a tactical advantage that has operational impacts. Despite improvements in technology and weapons proliferation, A2/AD is not a new threat and amphibious operations have been conducted in high threat A2/AD environments in the past. In a future A2/AD conflict, Marine Corps amphibious capabilities will continue to play a part as an answer to defeating an enemy antiaccess strategy and has a role to play in AirSea Battle.

Literature Review

Introduction

While the Antiaccess/Area Denial threat is not new to warfare, recent literature addresses it as a unique operational challenge due to increasing improvements and proliferation of its technological aspects. As a result, the applied study of the A2/AD threat in the modern context,

the US response to it, and the adoption of the acronym itself are largely confined to literature over the last two decades. This literature review will look at the A2/AD threat and emerging theories to counter it from this modern perspective. In doing so, we can frame the hypothesis in a manner that can be applied directly to the developing AirSea Battle concept. This review will address the overarching concept of the A2/AD threat environment, the specific Antiaccess threat in relation to AirSea Battle, the joint force approach to A2/AD, the concept of AirSea Battle itself, and the Marine Corps contribution to the Antiaccess threat as it relates to AirSea Battle. The result will be to determine whether a gap exists in current doctrine for application of Marine Corps capabilities to AirSea Battle for further study and to establish a framework to conduct a case study analysis on its potential application.

Contextual Background

Due to the recent surge in interest in the A2/AD threat and the emerging nature of AirSea Battle, literature regarding these concepts is primarily concentrated in three categories. The first and most authoritative group of literature on the subject is published doctrine and concepts of the Department of Defense. This literature includes publications such as the Joint Operational Access Concept, Naval Amphibious Capability in the 21st Century: Strategic Opportunity and a Vision for Change, and Gaining and Maintaining Access: An Army and Marine Corps Concept. The second group is comprised of the published work of the major think tanks such as the Center for Strategic and Budgetary Assessment's Air Sea Battle: A Point-of-Departure Operational Concept and the Rand Arroyo Center's Assuring Access in Key Strategic Regions: Toward a Long-Term Strategy. The third group consists of the multitude of Military journal articles and opinion papers written on the subject since the announcement of AirSea Battle.

In reviewing the current literature on A2/AD and AirSea Battle, it is important to note that a base document on AirSea Battle has yet to be published by the Air-Sea Battle Office. As a

result, the major definitive published document on AirSea Battle is the Center for Strategic and Budgetary Assessments' AirSea Battle: A Point of Departure Concept. This paper will rely extensively on this document to serve as a reference point for AirSea Battle and its subordinate themes. Overall, the discussion on AirSea Battle itself relies heavily on think tank studies, opinion articles, and unpublished forms of media. The last of these, in the form of interviews and briefings of senior military officers, plays an unusually heavy role in the discussion due to the emerging nature of AirSea Battle and the lack of a published doctrine. An example of this analysis is the Brookings Institution's Air Sea Doctrine: A Discussion with the Chief of Staff of the Air Force and Chief of Naval Operations.

While a base document for AirSea Battle has not been produced, the overarching framework for how US forces will address the A2/AD threat has been published. The Joint Operational Access Concept (JOAC) was put forward by the Chairman of the Joint Chiefs of Staff, General Martin E. Dempsey in January of 2012. The JOAC "describes in broad terms ... how joint forces will operate in response to emerging Antiaccess and Area Denial security challenges."⁸ The JOAC is the baseline concept for the joint forces under which all subordinate A2/AD concepts and initiatives, to include AirSea Battle, operate. As a result, the JOAC will serve as point of departure for many of the concepts, definitions, and assumptions developed during this literature review due to its authoritative nature with respect to the A2/AD threat in general and development of the subordinate concept of Air Sea Battle in particular.

Key Concepts and Terms

In understanding the AirSea Battle concept and its relation to the Marine Corps contribution, we must first frame the A2/AD threat that it seeks to address. The A2/AD threat must be defined as an overall concept, through its individual aspects of Antiaccess and Area Denial, and in its relevant context of technology, tactics, and threat examples. In doing so, we

can establish a baseline for comparison during the case study portion of this paper and achieve a more complete understanding of its implications.

In defining A2/AD, we need to recognize that it is not a new concept. As described by General Dempsey, “A2/AD is not new, but it is a defining characteristic of today’s operational environment.”⁹ This realization is an important one so that we may acknowledge and learn from historic challenges in A2/AD environments that can assist in our understanding of A2/AD today. Additionally, while A2/AD is generally referenced as a generalized threat, the US Department of Defense makes a distinction between Antiaccess and Area Denial. When referring to A2/AD as a whole, most literature references the operational environment created by the implementation of Antiaccess and Area Denial strategies together. For the purpose of this paper and in line with general thought, in this thesis, the A2/AD threat refers to the opposition of operational access that this environment presents. As defined by the JOAC, **Operational Access** is: “The ability to project military force into an operational area with sufficient freedom of action to accomplish the mission.”¹⁰ Before breaking down the concept into the specifics of Antiaccess and Area Denial independently, we must explore the overall characteristics of the A2/AD threat as a whole.

The A2/AD threat is a much broader and complex environment than is the focus of much of the recent research on the matter. Many of the studies of the A2/AD threat concentrate primarily on its technological aspects, including the AirSea Battle concept. This is due in large part to the need to identify shortfalls in US counter technology solutions to drive future Department of Defense procurement programs. However, the A2/AD threat to US operational access is not just technological but the associated tactics employed as part of an overall A2/AD strategy. Neither technology nor tactics are a stand-alone aspect of such an A2/AD strategy, but are closely interrelated. Similarly, A2/AD threats are not limited to high-end warfare but range the full spectrum from high end to limited and even asymmetric warfare. In addition, the

environment for A2/AD threats may occur at the local, regional, or theater level of operations. While research analysis tends to focus on potential future near peer competitors scenarios, the A2/AD threat presents a full range of military circumstances and potential scenarios.

While recognizing that many enemy threats can be employed in both an Antiaccess and Area Denial role, the Department of Defense defines them as distinct capabilities. **Antiaccess** is defined as: “Those actions and capabilities, usually long-range, designed to prevent an opposing force from entering an operational area.”¹¹ **Area Denial** is defined as: “Those actions and capabilities, usually of shorter range, designed not to keep an opposing force out, but to limit its freedom of action within the operational area.”¹² The majority of literature categorizes the antiaccess threat as largely aimed at naval and air forces with potential application in the space and cyber domains. The area denial threat is categorized as occurring across all domains, to include land forces.¹³ Due to the focus of AirSea Battle on the Antiaccess portion of A2/AD, thus a key discussion in this paper, we will address the specific threat examples in the Antiaccess realm. The majority of the following examples are based on a complex and sophisticated high-end antiaccess threat.

The Joint Operational Access Concept identifies the following key antiaccess capabilities:

A variety of surface-, air- and submarine-launched ballistic and cruise missiles able to accurately attack forward bases and deploying U.S. forces and their supporting logistics at ranges exceeding 1,000 nautical miles.

Long-range reconnaissance and surveillance systems that provide necessary targeting information, including satellites, aircraft, and land- and ship-based radar.

Kinetic and nonkinetic antisatellite weapons that can disable space systems vital to U.S. force projection.

Submarine forces able to interdict U.S. and friendly sea lines of communications

in both sovereign and international waters between U.S. bases and the theater of operations.

Cyber attack capabilities designed to disrupt U.S. command and control systems and critical infrastructure, both civilian and military.

Terrorists willing to attack U.S. or partner bases and deploying forces, even at points of origin in the continental United States or other regions.

Special operations forces capable of direct action and unconventional warfare in the approaches to the operational area.¹⁴

The Center for Strategic and Budgetary Assessment's AirSea Battle: A Point-of-Departure Operational Concept identifies the following key antiaccess capabilities:

Kinetic and non-kinetic anti-satellite weapons and supporting space launch and space surveillance infrastructure.

Sophisticated cyber- and electronic warfare capabilities.

Long-range ISR systems (airborne; space-based; land-based over-the-horizon radar (OTH -R)).

Precision-guided conventional land-attack and anti-ship cruise and ballistic missiles numbering in the thousands, that can be launched from multiple air, naval, and mainland-based mobile ground platforms throughout the theater.

Scores of quiet diesel (and some nuclear) submarines armed with supersonic sea-skimming anti-ship cruise missiles and advanced torpedoes.

Ballistic missile submarine (SSBN) force.

Very large inventories (tens of thousands) of advanced sea mines.

Multi-layered integrated air defense systems (IADS), including a large numerical superiority in modern fighter/attack aircraft, and fixed and mobile surface-to-air missiles numbering in the thousands.

Comprehensive reconnaissance-strike battle networks covering the air, surface and undersea domains.

Hardened and buried closed fiber-optic command and control (C2) networks tying together various systems of the battle network.¹⁵

In preparation for a discussion of the characteristics of the AirSea Battle concept, we

must first explore the central theory in the joint force approach to advanced A2/AD and opposed operational access. As alluded to in discussing the definitions of Antiaccess and Area Denial, the Department of Defense views the A2/AD threat as a multi-domain problem. The battle for operational access occurs in all operational domains. This includes the traditional air, sea, and land domains along with the inclusion of the expanding space and cyber domains. As a result, the joint force sees the A2/AD threat as a complex problem that requires a whole force response from the entire joint community. More specifically, the Department of Defense is not looking to merely employ the traditional joint force synergy but also to take advantage of cross-domain synergies. The idea is that joint forces, “will leverage cross-domain synergy to establish superiority in some combination of domains that will provide the freedom of action required by the mission.” **Joint Synergy** is defined as: “The combination of Service capabilities such that each enhances the effectiveness and compensates for the vulnerabilities of the others.”¹⁶ **Cross-domain synergy** is defined as: “The complementary vice merely additive employment of capabilities in different domains such that each enhances the effectiveness and compensates for the vulnerabilities of the others.”¹⁷ The concept of applying the Joint Force in leveraging cross-domain synergy against the A2/AD threat is central to the Joint Operational Access Concept. As such, it is applicable to subordinate concepts, to include AirSea Battle.

AirSea Battle Concept

In addressing the concept of AirSea Battle, its tenants must be examined from the perspectives of both its authoring services and the Department of Defense, as a whole. The viewpoint of its authoring services, the United States Air Force and United States Navy, were disseminated at a discussion held by the Brookings Institution on 16 May 2012. During that conference, the Chief of Staff of the Air Force, General Norton A. Schwartz, and the Chief of Naval Operations, Admiral Jonathan W. Greenheart presented the underpinnings of the AirSea

Battle concept. While the concept was not directly defined by the service chiefs, the discussion provided an overall understanding of the current focus of AirSea Battle.

General Schwartz characterized the US Air Force and Navy's view of the ultimate goal of AirSea battle as:

Interoperable air and naval forces that can execute networked, integrated attacks-in-depth to disrupt, destroy, and defeat enemy anti-access area denial capabilities and in turn sustaining the deployment of U.S. joint forces; air, maritime, land, amphibious, and special operations wherever and whenever they are needed to help counter potential aggression or hostile actions against the U.S. or its partner nation interests.¹⁸

From this viewpoint, AirSea Battle is an enabling capability for the introduction of US force projection. At its core, AirSea Battle is about gaining access during the early phase operations in a hostile or potentially hostile A2/AD environment. He further defined the limited scope of the concept from the two services perspective as encompassing the theory that:

If an initiative does not demonstrate sufficient potential to improve the integrated ability of air and naval forces to project power against anti-access and area denial threats, then it ain't -- it ain't Air-Sea Battle.¹⁹

While Marine Corps and Army representatives have recently begun duty with the AirSea Battle Office, the concept itself is still largely identified as a two-service fight. AirSea Battle envisions that the Marine Corps and Army come into play once the Air Force and Navy have gained access to a theater or region.²⁰

Despite limiting itself to an Air Force and Navy emphasis, AirSea Battle displays overall themes that support a holistic approach to gaining access in an A2/AD environment. The AirSea Battle approach is described as having applicable value at the "Strategic, Operational, and Tactical" levels.²¹ To accomplish this, AirSea Battle recognizes that it will require "tightly coordinated operation[s] across warfare domains."²² Similarly, it establishes that a balanced kinetic and non-kinetic plan of attack is necessary. Lastly, General Schwartz stated that, "[a]t the

concept of operations level ... this is not about new stuff. This is about making sure that we are making the best use of the existing capabilities that we possess.”²³ This theory underlies the importance of AirSea Battle in the development of joint tactics and procedures in the face of the A2/AD threat.

From the perspective of the Department of Defense as a whole, AirSea Battle is designed to improve integration of joint forces while also being a limited operational concept as defined in the Joint Operational Access Concept. The JOAC describes AirSea Battle as intending

to improve integration of air, land, naval, space, and cyberspace forces to provide combatant commanders the capabilities needed to deter and, if necessary, defeat an adversary employing sophisticated antiaccess/area-denial capabilities. It focuses on ensuring that joint forces will possess the ability to project force as required to preserve and defend U.S. interests well into the future.²⁴

As such, the JOAC defines the purpose of AirSea Battle as including integration of forces across all domains to include Marine Corps and Army land components. However, in application, it describes AirSea Battle as a “limited operational concept that focuses on the development of integrated air and naval forces in the context of antiaccess/area-denial threats.”²⁵ In essence, this definition results in an operational concept that relies on a two-service contribution that is expected to have results across all war fighting domains to improve joint force projection.

While the AirSea Battle concept, from the Air Force and Navy perspective, does not envision a role for the Marine Corps and Army in gaining access during the early A2/AD fight, the JOAC recognizes their potential contributions. As described in the JOAC,

large land forces generally will be the last to penetrate within range of an enemy’s antiaccess and area-denial weapons because of the potential for catastrophic loss. That is not irrevocably true however. Land forces, for example, could be used to seize advanced bases on the outskirts of an enemy’s defenses from which to project air and naval power into the heart of those defenses. Moreover, small land or surface naval forces, to include special operations forces, could infiltrate an enemy’s antiaccess defenses undetected.²⁶

Where geography allows, land forces likewise will maneuver against intermediate

land objectives to facilitate the continued advance of those naval and air forces before maneuvering against objectives in the objective area through forcible entry if the mission requires.²⁷

The Department of the Defense in the JOAC acknowledges that land forces have a part to play in gaining access. Yet, both the JOAC and the Air and Naval services discount the significant participation of Marine Corps and Army elements in AirSea Battle.

Marine Corps Perspective

From the Marine Corps perspective, it is clear that amphibious operations have a part to play in gaining access during the early phases of an A2/AD fight. As identified in Gaining and Maintaining Access (GMA): An Army-Marine Corps Concept and the Naval Amphibious Capability (NAC) in the 21st Century report, Marine Corps capabilities can be applied to defeat antiaccess threats. In the case of the GMA concept, while it recognizes the applicability of the Marine Corps to antiaccess defeat, its focus is on land power application against area denial threats. The NAC report provides some examples of potential early-phase Antiaccess amphibious operations. Yet, it focuses on amphibious operations as a whole, vice developing a detailed construct of A2/AD defeat. Similar to AirSea Battle, the NAC report focuses on a two-service aspect of facing the A2/AD environment through naval operations. While the Marine Corps recognizes that amphibious operations have a role to play in an Antiaccess defeat strategy, there is currently no literature detailing its application as part of a joint force approach.

Case Study

“As for the turning point [of the war], when the positive action ceased or even became negative, it was, I feel, at Guadalcanal.”²⁸

Lieutenant General Torashirō Kawabe,
Deputy Chief, Imperial Japanese Army General Staff

In August of 1942, Allied forces landed on the island of Guadalcanal during Operation

Watchtower as part of the first major offensive against the Empire of Japan. Despite heavy losses at the battles of Coral Sea and Midway, the Imperial Japanese still maintained the overall initiative and numerical advantage over Allied forces. After the amphibious landing and follow-on operations at Guadalcanal, the initiative passed to the US and Allied forces. Following Guadalcanal, the Empire of Japan remained largely on the defensive for the balance of the war.

In order to examine the influence of amphibious operations at Guadalcanal on the overall A2/AD threat environment, this case study will focus on three aspects of the operation. First, it will analyze the state of the overall Pacific Theater Campaign immediately prior to Guadalcanal to both establish a baseline and understand the contribution of related shaping operations. Second, it will consider the purpose behind Operation Watchtower and its operational design to understand its relation to A2/AD defeat. Lastly, it will evaluate the effects of the operation in the immediate objective of the Solomon Islands and the overall Pacific Theater. In studying these three aspects of the amphibious operations at Guadalcanal, we can then draw potential correlations to A2/AD defeat in the modern context for further consideration. The end result is to identify if there are prospective applicable contributions for amphibious operations in gaining access as part of early phase operations in A2/AD and potentially the AirSea Battle concept.

World War II Pacific Theater A2/AD Environment

The A2/AD environment presented by Japanese forces in the Pacific Theater needs to be considered from both the larger theater perspective and in the vicinity of Guadalcanal. In addition, we will focus on the threat presented specifically to US forces and its allies in Southeast Asia. In the opening days of Japanese aggression against the US, its overall strategy relied on three major concepts: 1) establish a defensive in depth through an island perimeter in the Central and South Pacific to protect the Japanese mainland, maintain interior lines, encapsulate needed resources in Southeast Asia as part of the Greater East Asia Co-Prosperity

Sphere 2) neutralize the US Pacific Fleet early in the outset of conflict 3) fight a defensive war to exhaust the overstretched Allies and sue for a conditional peace.

At the operational and tactical level of war, the Japanese would rely on the “possession of initiative, ... naval and air superiority, advantages of concentration, and local superiority against enemies defensively dispersed,”²⁹ as part of their A2/AD strategy. In the immediate vicinity of Guadalcanal and Southeast Asia, the A2/AD tactics employed and its operational impacts would differ slightly due to the heavy concentration of islands in the region vice the isolated islands of the Central Pacific. As described by historian H.P. Willmott,

The Japanese planned to use land-based aircraft from neighboring bases and island groups, plus the fleet, to support formations and bases brought under attack and fight the Americans to exhaustion, the point being that various parts of the defense – the forward base, the supporting elements, and the fleet component – would be mutually supportive and would together provide the overall numerical superiority relative to an enemy amphibious assault certain to possess initial superiority over any single part of the Japanese Defense.³⁰

By understanding the purpose and tactics of the Japanese A2/AD approach we can better identify their operational design and the effectiveness of US actions in response.

Guadalcanal Contextual Background

In recent years, there has been significant debate among historians and military professionals over what should be considered the “turning point” in the Pacific Theater for US forces during World War II. While in the immediate aftermath of World War II many considered the Battle of Midway as the turning point, there has been an increasing trend to view the later Battle of Guadalcanal as assuming this role. Regardless of one’s point of view, it is necessary to understand that neither Midway nor Guadalcanal are independent events that can be isolated from the overall effects of US actions during this period. Including the Battle of Coral Sea, this period represented the end of US defensive strategy and placed the initiative squarely in the hands of Allied forces for the remainder of the war. Each of these battles contributed in some

part to this effort and the reduction of Japanese A2/AD during the early phase of the war. While the Battle of Coral Sea, lasting from 4-8 May, was a stalemate in tactical term for naval forces, it was the first rebuffing of Japanese expansionism that denied them the conquest of Port Moresby, New Guinea. In addition, the damage to the Japanese fleet carrier Shokaku and the depletion of the aircraft complement of the fleet carrier Zuikaku prevented their participation in the Battle of Midway the following month. The Battle of Midway, from 4-7 June, resulted in the destruction of four Japanese fleet carriers and achieved rough parity in aviation between the two forces. The Battle of Guadalcanal that started on 7 August and the Solomon Islands Campaigns that followed resulted in a number of attritional battles that broke the back of Japanese defenses in the South Pacific and allowed the Allies to assume the offensive in the Pacific Theater. The period from May 1942 through the Battle of Guadalcanal and its follow on operations represented the end of significant Japanese antiaccess capability as Allied forces began their push to the Japanese homeland. With an understanding of the interrelatedness of these events, we examine the state of Japanese A2/AD prior to Guadalcanal and the effect of actions of Coral Sea and Midway on the overall Japanese A2/AD system.

Impacts of Coral Sea and Midway

Prior to World War II, a number of factors affected the US laydown of forces in the Pacific and, as a result, the Imperial Japanese response in establishing their A2/AD perimeter defense. The original War Plan Orange created in the interwar period envisioned that the majority of American possession in the Pacific, isolated and distant, would fall to the initial Japanese offensive. With the notable exception of Hawaii, these positions would be sacrificed to gain time and attrite enemy forces. This would prepare the way for US forces to organize and fight their way back across the Pacific.³¹ To accomplish this, the US maintained a garrison in the Philippines and Guam as well as smaller naval bases at Guam, American Samoa, Wake, and

Midway Island. In 1940, the US decided to base the US Pacific Fleet at Pearl Harbor in Hawaii. This forced the US to provide garrison defenses and aircraft cover at the island bases of Midway, Wake as well as Johnston and Palmyra atolls. This was necessary to support scouting and screening operations to the west of Hawaii in defense of the Pacific Fleet. Further assets were deployed to Hawaii itself to defend the fleet in port. The Philippines was also further fortified in an attempt to display US resolve in the face of increasing Japanese aggression. This laydown of US forces in December of 1941 provided both an opportunity and a dilemma for the Japanese A2/AD construct. The decision to base the US Pacific Fleet at Pearl Harbor presented a better target for the Japanese than the farther US West Coast. Yet, the US forces scattered throughout the Pacific were at odds with Japanese plans to establish an in-depth island chain perimeter defense.

Coral Sea

This dilemma of US and Allied force laydown in the Pacific would eventually drive Japanese actions at Coral Sea and Midway and thus set the conditions for Guadalcanal. While there were a number of significant actions throughout the Pacific during this period, to include the battles of the Philippines and Wake Island, for purposes of this study we are limiting ourselves to Coral Sea and Midway due to their direct effects on Operation Watchtower. In the case of Coral Sea, the eventual combat action was initiated by an attempt of the Imperial Japanese Navy (IJN) to expand Japan's A2/AD network in defense of its forward base at Rabaul. Japanese planners feared that Rabaul was exposed to attacks from "New Britain, Lae, and Salamaua in western New Guinea and Tulagi in the southern Solomons."³² By capturing Rabaul, Allied forces would be within a 700 mile striking distance of the Central Pacific garrison at Truk. This would have the effect of bypassing the whole Japanese defensive perimeter established in the Marshall Islands.³³ In addition, airfields in these locations would place northern Australia

within reach of Japanese bombers. This would be a crucial capability if US and Allied forces chose to use Australia as a staging point for attacks to regain islands in the Pacific. Ultimately, the Japanese wanted to deny the use of the region to Allied forces as part of their overall A2/AD strategy.

To accomplish their task, the initial IJN plan was to invade and seize Port Moresby, New Guinea as well as secure Tulagi, a small island in the Solomon Islands. Titled Operation MO, it was to be conducted by TF MO that included 2 fleet carriers, 1 light carrier, 9 cruisers, 15 destroyers, and 127 aircraft.³⁴ Through deciphered intercepted Japanese messages, the US was able to determine the objective of the Japanese forces. Japanese concerns over Port Moresby were correct, it was seen as a potential key base for a planned counteroffensive by General Douglas MacArthur. The US response was to dispatch four fleet carriers and associated escorts to the Coral Sea in opposition of the IJN. With two of the carriers at Pearl Harbor, only portions of the US and Australian naval forces arrived in time for the battle.³⁵ The Allied force consisted of 2 fleet carriers, 9 cruisers, 13 destroyers, and 128 aircraft under Task Forces (TF) 17, 11, and 44.³⁶

Following the engagement of the two forces on 4-8 May, the Japanese claimed a slight tactical victory in overall losses. The Americans lost the fleet carrier Lexington, an oiler and a destroyer, totaling 41,826 long tons of warships along with 69 aircraft.³⁷ In addition, the fleet carrier Yorktown was heavily damaged. While the Japanese fleet carrier Shokaku was damaged and the fleet carrier Zuikaku lost a large portion of its air wing, the overall tonnage lost by Japan was 19,000 long tons. Japan's losses included one light carrier (Shoho), a destroyer, and several smaller vessels along with 92 aircraft.³⁸ However, at the operational and strategic levels, the US could claim victory. The IJN turned back and failed to seize Port Moresby, the Shokaku and Zuikaku were not available in the crucial battle of Midway one month later, and for the first time

in the Pacific Theater, Allied forces had turned back a major Japanese advance. The implications of this achievement for the overview A2/AD threat will be examined following analysis of the battle of Midway.

Midway

Exactly one month after the initial clashes of the Battle of the Coral Sea, Japanese and US carrier task forces engaged in the Battle of Midway. Having failed to destroy the US carrier force at Pearl Harbor, Japanese planners sought a decisive battle to eliminate the remaining US carrier threat. In particular, Admiral Yamamoto, the Japanese architect of Pearl Harbor, saw the US carriers as the primary threat to Japanese operations. This concern was reinforced by the recent Doolittle Raid with the successful bombing of mainland Japan by B-25 Mitchell bombers off the USS Hornet.³⁹ With the sinking of the Lexington and the apparent significant damage to the Yorktown, Yamamoto believed he could force the remaining US carriers into an imbalanced decisive battle with Japanese forces. To accomplish this, the Japanese plan was to attack and seize the Midway Atoll at the extreme northwest end of the Hawaiian Island chain. In doing so, the Japanese hoped to: 1) force the US carrier fleet into a decisive battle to defend Midway and destroy the US carrier force in the ensuing battle and 2) expand the Japanese A2/AD network to prevent further penetration of Japanese defenses as occurred in the Doolittle Raid.

The ensuing plan for Midway, dubbed Operation MI, called for Japanese warships to make movement to Midway in dispersed task forces in order to deceive US forces of their ultimate intent. As a result, the only group of Japanese warships to see action at Midway would be Vice Admiral Nagumo's carrier striking force of 4 fleet carriers (Akagi, Kaga, Soryu, and Hiryu), 2 battleships, 15 support ships, 16 floatplanes and 248 carrier-based aircraft. The remaining Japanese forces of two light carriers, five battleships, and six cruisers trailed Nagumo's force by several hundred miles and were unable to influence the battle. Once this

combined force was in position and had begun its attack on Midway, Yamato believed the US would consider it vital to the defense of Pearl Harbor and be compelled to respond.⁴⁰ Similar to Japanese assumptions on the importance of Port Moresby for Allied forces, Japanese planners were correct in the value of Midway to US forces. Also similar to the Battle of Coral Sea, the US had been able to intercept and decipher Japanese messages allowing them to prepare for the upcoming attack on the Midway atoll. The US responded by dispatching TF 16 and TF 17 consisting of three fleet carriers (Enterprise, Hornet, and Yorktown), 25 support ships and 233 carrier-based aircraft to intercept the unsuspecting Japanese. In addition, US naval forces would be augmented by the 127 land based aircraft of Marine Aircraft Group 22, 7th Air Force, and a Naval air unit from Midway itself. The atoll was defended by C and D companies of the 2nd Marine Raider Battalion, Marine 6th Defense Battalion, and the 1st Motor Torpedo Boat Squadron.⁴¹

The resulting Battle of Midway from 4-7 June was a decisive victory for US forces. The Japanese lost all four fleet carriers and heavy cruiser Mikuma while the heavy cruiser Mogami and destroyers Arashio and Asahio were damaged.⁴² In addition, the Japanese lost 228 aircraft, 110 seasoned aviators, and 40 percent of the four carriers aircrafts' mechanics and technicians.⁴³ From the US forces, the carrier Yorktown and the destroyer Hammann were sunk along with the loss of 145 aircraft. Midway was the first significant US victory against Japan. It contributed to the overall attrition of Japanese forces that began at the Battle of Coral Sea. In addition, it severely restricted Japan's offensive striking power due to the loss of the majority of its fleet carriers. This bought valuable time for the Allies, allowing the US to take advantage of its production capability and overwhelm the Japanese with its industrial output in equipment. Lastly, the Battle of Midway paved the way for US operations at Guadalcanal and the final reduction of significant Japanese antiaccess theater-wide capability.

Implications

The cumulative effect of the battles of the Coral Sea and Midway resulted in the degradation of, but not an overall significant reduction in, Japanese A2/AD capability. The Japanese lost 4 fleet carriers, 1 heavy carrier, 1 heavy cruiser, 1 destroyer and 320 aircraft between the two battles. Compared to the overall Japanese inventory these losses were not overwhelming when viewed from the total Japanese order of battle. The notable exception is the loss of the IJN's 4 fleet carriers and 1 light carrier. As a result, the Japanese offensive striking power was significantly reduced. From the perspective of manpower reduction, the IJN maintained a significant base of experienced pilots following Coral Sea and Midway. While the loss of experienced pilots at Midway has often been cited as key reason for the inability of the Japanese to later defend key islands, the numbers do not reflect this. Less than 25 percent of the IJN aircrew on hand at Midway – 110 pilots – were lost during the battle.⁴⁴ Compared to the overall numbers of over 2000 trained pilots available to the IJN following the attack on Pearl Harbor, this represents a loss of less than 5.5 percent.⁴⁵ In addition, there was no exchange of territorial possession as a result of either battle.

While the Japanese offensive capability was considerably degraded, the overall naval shipping, aircraft component, and island possessions that composed its overall A2/AD network remained largely intact following Coral Sea and Midway. However, the two battles did prevent the Japanese from expanding their A2/AD network. Had the Japanese been successful, they would have seized New Guinea and Tulagi as well as the Midway Atoll. In doing so, they would have extended their detection and interdiction capability, occupied critical gaps in their A2/AD network, and potentially cut the lines of communication between the US and Australia. Although the Japanese A2/AD was not significantly reduced following these battles, the events at Coral Sea and Midway did substantially effect Japanese A2/AD in the form of subverted potential.

In examining the implications of Coral Sea and Midway, we need to review the purposes of the Japanese operations and the causal factors that necessitated them from the Japanese perspective. In the case of the Battle of Coral Sea, Japanese planners sought to expand the A2/AD network in defense of Rabaul and deny use of the region to Allied forces. This Course of Action (COA) was driven by the concern that Allied forces would utilize the region to seize Rabaul and, from there, the Central Pacific garrison of Truk. For them to come to the conclusion that this was a reasonable threat, Japanese planners had to make two assumptions regarding Allied forces: 1) Allied forces had the ability to mount an expeditionary campaign through the Solomon Islands to threaten Rabaul, and 2) Allied forces had the amphibious capability to attempt seizure of Rabaul. Ultimately, Japanese decisions that resulted in the Battle of Coral Sea were based on an enemy threat COA that assumed an expeditionary capability and, most likely, an amphibious capability as well. The fact that the Japanese were willing to commit significant forces based on these suppositions gives credence to the fact that they considered them both credible and likely.

In the case of the Battle of Midway, Japanese planners sought to eliminate the remaining US carrier threat through a decisive battle and seize the Midway Atoll to expand the Japanese A2/AD network. This COA was driven by the belief that the US considered Midway vital to the defense of Hawaii and would be compelled to employ its carrier force to defend it. Ultimately, this scenario emerged due to the presence of US forces throughout the Pacific Theater prior to the beginning of hostilities with Japan. The presence of these forces within the Japanese A2/AD network drove Japanese decision-making early in the war. At Midway, the presence of the forces ashore had a disruptive effect on the ability of the Japanese to expand their A2/AD network. In turn, the battle of Midway was, in part, a result of US forward deployed presence.

Both the Battle of Coral Sea and the Battle of Midway highlight the spoiling effects of

friendly forces operating within an enemy A2/AD network during early stage operations of an A2/AD fight. The Battle of Coral Sea illustrates the impact of the threat of expeditionary capabilities and more specifically, amphibious operations, on enemy decision-making. The Battle of Midway illustrates the disruptive effect of forward deployed forces on the capability of the overall A2/AD network.

Accordingly, the implication is that US planners need to consider: 1) Shaping Operations - the influence that Marine Corps expeditionary capabilities have on enemy COA development when establishing their A2/AD network and 2) Interior Operations - the significant disruptive impact on enemy actions of Marine Corps forces forward deployed within the A2/AD network at the start of hostilities. The CSBA report on AirSea Battle is quick to discount the impact of forces ashore and afloat within range of an enemy A2/AD network. However, history has shown the significant impact of these forces on the conduct of an A2/AD engagement. As a result, AirSea Battle or any equivalent joint antiaccess defeat strategy needs to take into account the impact of Marine expeditionary forces afloat or ashore during the immediate conduct of an A2/AD fight.

Operation Watchtower

The combat actions at Coral Sea and Midway delayed the IJN's planned Operation FS to seize New Caledonia, the Fiji Islands, and Samoa.⁴⁶ Despite this setback, the Japanese still maintained an overall offensive mindset in the South Pacific as they re-attempted to seize Port Moresby following their failure to do so during the Battle of the Coral Sea.⁴⁷ On the night of 21 July, Japanese forces landed near Gona on the northern coast of Papua, New Guinea and advanced south along the difficult Kokoda Trail in a bid to seize Port Moresby.⁴⁸ Due to the difficult terrain, the Australian forces defending Papua, and the effects on their supply lines from the eventual actions at Guadalcanal, the Japanese were unable to ultimately capture Port

Moresby.

In addition to the offensive operations in Papua, the Japanese consolidated forces in the Solomons to both defend the Japanese southern flank and threaten Allied operations in the region. The IJN had already occupied Tulagi on 3 May prior to the Battle of Coral Sea, allowing the IJN to safely seize nearby Guadalcanal.⁴⁹ On 6 July, the IJN landed two construction battalions on Guadalcanal⁵⁰ and begun building an airfield near Lunga Point.⁵¹ Allied forces “estimated then that the Japanese could have Guadalcanal ready to base sixty bombers by August 1, and by the end of the month be able to base a whole air flotilla there.”⁵² From Guadalcanal, these bombers were in a position to threaten the Lines of Communication (LOC) between the US and Australia as well as support further advances of the Japanese in the South Pacific.

The Japanese attempt to seize Ports Moresby and the development of an airfield on Guadalcanal to disrupt the Allied LOC gave US planners concern that the Japanese would continue on the offensive and isolate Australia. This was further reinforced by US intelligence in July that suggested the Japanese were preparing for offensive operations in the South Pacific. Intercepted and decoded Japanese radio traffic indicated a significant build up of Japanese forces in the vicinity of Rabaul in preparation for aggressive Japanese actions.⁵³ Significantly, the massing of air units at Rabaul were a “telltale sign that had preceded every substantial Japanese action of the war.”⁵⁴ Similarly, “[t]he shift of submarines to the region suggested the creation of a typical Japanese submarine scouting line, a harbinger of any attack.”⁵⁵ The cumulative effects of these events presented a clear picture of Japanese intentions in the South Pacific and caused great uneasiness for the future of Allied Forces in the region.

While planning was already underway on a potential Allied attack in the South Pacific to strike at Rabaul, Japanese actions in May through July provided the impetus for its approval.⁵⁶ A message from the Joint Chiefs of Staff to Vice Admiral Robert L. Ghormley, Commander South

Pacific Area, and General Douglas MacArthur, Supreme Commander, Southwest Pacific Area, in relation to Operation Watchtower stated “that it is necessary to stop without delay the enemy’s southern advance.”⁵⁷ US planners recognized that if the Japanese were allowed to expand their A2/AD network in the South Pacific it could sever the LOC between the US and Australia. This would have the effect of isolating Australia, creating an effective staging location for aircraft and troops to conduct further attacks south,⁵⁸ and potentially block future Allied advances towards Rabaul and the Philippines.

Implications

In response to the Japanese threat, Admiral Ernest King, Commander in Chief, United States Fleet, conceived of a plan to seize the southern Solomon Islands in order to deny their use to Japanese forces. Specifically, King advocated for the invasion of Guadalcanal. Dubbed Operation Watchtower, the mission was to be executed simultaneously with an Allied advance by General Douglas MacArthur in New Guinea. Operation Watchtower was to be conducted by the 1st Marine Division as an amphibious assault upon the islands of Tulagi, Guadalcanal, and Florida in the Southern Solomons. While this study will examine effects of the conduct of the operation later, the purpose of the offensive highlights the use of amphibious operations as an area denial strategy. The implication is that US planners need to consider Denial Operations - the ability of rapidly mobile forces to prevent the expansion and development of an enemy A2/AD network. A2/AD networks are not a static entity. Like battle itself, they ebb and flow as forces engage, maneuver, and reach culmination. Recognizing this, the US must take advantage of any opportunity to check the expansion of an active enemy A2/AD network.

Battle of Guadalcanal

Having addressed the purpose of Operation Watchtower in regard to A2/AD defeat, this paper will next examine the effects of the Battle of Guadalcanal on the Japanese A2/AD

network. Recognizing that the impetus of the battle was the actual amphibious assaults to seize Guadalcanal, Tulagi, and Florida, the effects include the entirety of land, naval, and air engagements to support the island seizures. Specifically, this examination will focus on the six month period from the initial landing at Guadalcanal on August 7, 1942 to the withdrawal of remaining Japanese troops on February 7, 1943.

To accomplish Operation Watchtower, Allied forces initially committed the expeditionary forces of TF 61, forward deployed land based aircraft in the South Pacific of TF 63, and elements of the Southwest Pacific Command detailed to support the Guadalcanal landings, including TF 42. TF 61 consisted of over 82 warships and transport vessels, including 3 fleet carriers, 1 battleship, 11 heavy cruisers, 3 light cruisers, 28 destroyers, and 242 aircraft. The embarked landing force of the 1st Marine Division consisting of over 16,000 Marines. TF 63 was comprised of 282 aircraft to include fighters, bombers, transport, and reconnaissance planes. TF 42 committed 11 submarines while Southwest Pacific Command augmented with 16 bombers and 6 additional submarines.⁵⁹

Defending the initial invasion of Guadalcanal and adjacent islands were the Japanese 11th Air Fleet and 25th Air Flotilla operating from Rabaul and Tulagi, the 8th Fleet, and over 3,700 troops ashore on Guadalcanal, Tulagi, and Gavutu-Tanambogo. The 11th Air Fleet and 25th Air Flotilla consisted of 112 aircraft while the 8th Fleet included 5 heavy cruisers, 2 light cruisers, 8 destroyers, and 10 submarines. On the initial landings of August 7th, the Allied forces outnumbered the Japanese defenders by over 31 warships (3 fleet carriers), 7 submarines, 428 aircraft, and over 12,000 troops.⁶⁰ However, over the next six months, both forces would contribute significant resources in the vicinity of Guadalcanal and the adjacent islands. As these forces grew, so did the effect on the A2/AD fight.

While US forces outweighed Japanese elements in the immediate vicinity of

Guadalcanal, Allied forces did not enjoy this advantage throughout the Pacific Theater. In particular, the IJN maintained an advantage over the Pacific Fleet and Allied navies due to the heavy allocation of naval power to the Atlantic in 1942.⁶¹ A key factor in the success of Operation Watchtower and follow on operations were the relative advantage in tempo and localized dominance that Allied forces applied in the Guadalcanal region. The Japanese piecemealed their commitment of forces to the area and failed to establish an overwhelming superiority.⁶² The results of this are evident in the reduction of Japanese A2/AD capabilities by the end of the six month campaign.

Over the six month period, the Allies and Japan fought in three major land battles, five significant naval battles, including five nighttime surface actions and two carrier engagements, and almost daily aerial combat. In terms of land power, out of the estimated 31,400 men of the Japanese Imperial Army committed to Guadalcanal, the fatality total was approximately 20,800. Of the more than 60,000 Marines and soldiers from Allied forces committed to Guadalcanal, the total losses were 1,207 men. From a naval perspective, the IJN lost 1 light carrier, 2 battleships, 3 heavy cruisers, 1 light cruiser, 11 destroyers, and 6 submarines. US naval losses numbered 2 fleet carriers, 6 heavy cruisers, 2 light cruisers, and 15 destroyers. In terms of land and naval assets, the immediate impression in numerical terms does not reflect the true effect of land and naval losses on the Japanese A2/AD network.⁶³

The results of the land battles, while significantly favoring Allied forces in terms of losses, had little impact on the larger Imperial Japanese Army due to the significant numbers they fielded throughout the Pacific Theater. As late as August 1945, the Japanese still fielded 175 divisions compared to 6 Marine Corps divisions and 89 US Army divisions between both the Pacific and European theaters. The immediate naval losses did not significantly favored US forces either, especially when considering that the US lost two fleet carriers. However, when

factoring in the industrial production of warships during this same period, the effect on naval force ratios from Japanese losses at Guadalcanal becomes apparent. During this time frame the US produced 87 ships, to include 1 fleet carrier, 1 light carrier, 1 battleship, 4 light cruisers, 62 destroyers, and 18 submarines. In comparison, Japan only produced 22 warships, to include 1 light cruiser, 7 destroyers, and 14 submarines. The IJN could not afford to exchange losses with the US at the rate experienced at Guadalcanal. Yet, the most significant impact on the Japanese A2/AD network at Guadalcanal was on its air arm.⁶⁴

During the six month period of Guadalcanal, the Japanese lost a low estimate of 683 aircraft compared to 615 lost by Allied forces during the same period. In itself, this is significant due to production rates of aircraft by the two forces, similar to the case of warship construction. In 1942, the United States produced 49,445 planes compared to 8,861 by the Japanese. The key effect, however, was the loss of Japanese aircrew. Allied forces had 420 pilot fatalities during this period. Japanese pilot fatalities are estimated at two to four times higher. The IJN's air service lost somewhere between 840 and 1,680 pilots at Guadalcanal. Importantly, these largely came from their most experienced and best-trained aviators. Combined with the previous losses from Guadalcanal and Midway, the Japanese air arm's ability to impose itself as an antiaccess capability was significantly curtailed.⁶⁵

A noteworthy cause of the ability of Allied forces to inflict such damage on Japanese air forces was the establishment of Henderson Airfield on Guadalcanal. With augmentation elements from carriers and the 11th Air Fleet, the Japanese were able to achieve superiority of numbers over Guadalcanal. However, they were often at a disadvantage by operating from Rabaul, located over 565 miles from Guadalcanal.⁶⁶ After a 4-hour flight, Japanese pilots had little fuel for dogfighting US aircraft. When damaged, the lightly armored Japanese aircraft, such as the Zero, found it difficult to successfully make it back to distant Rabaul. Meanwhile, the

more heavily armored US aircraft, such as the F4F Hellcat, were able to land at nearby Henderson Airfield and fight another day. Without the ability of fighters to maintain a sustained presence, Allied fighter aircraft readily interdicted Japanese bombers. Enhanced by radar and local coast watchers, aircraft from Henderson were able to rapidly react to Japanese air attacks.⁶⁷ Overall, the airfield proved to be a key center of gravity for Allied forces while providing defensive counterair, interdiction against ground troops and naval transports, and close air support.⁶⁸

Implications

Recognizing the significance of the airfield at Lunga Point, Guadalcanal to both Japanese and US forces, it became the priority objective upon landing at Guadalcanal. General Alexander A. Vandegrift, Commander of the 1st Marine Division, landed his Marines 6,000 yards from the heavily valued Lunga Point Airfield.⁶⁹ On August 8th, one day after their initial landing, the Marines had seized the airfield. Over the weeks and months ahead, this early action would prove crucial to Allied success. General Vandegrift recognized the significance of seizing, holding, and utilizing the airfield to the survival and ultimate success of forces ashore. General Vandegrift's lessons at Guadalcanal would drive him to later state, "We must conclude that the rest of the campaign in the South Pacific – practically to its conclusion – will be the seizure of islands, either to take away from the enemy, airdromes which they hold, or to seize other islands to make airdromes of our own."⁷⁰ At Guadalcanal, Allied forces utilized an amphibious landing to secure an expeditionary airfield ashore and establish localized dominance to both reduce the enemy A2/AD network and deny its ability to expand. The implication is that US planners need to consider: Reduction Operations - the degradation of enemy A2/AD assets through localized dominance.

In addition to the effects of Guadalcanal on local control of the region and the planned

reduction of Rabaul, US planners were aware of the potential theater wide impact of a successful operation at Guadalcanal itself. In a memorandum to the President, through the Joint Chiefs of Staff, Admiral King Earnest J. King outlined the possible benefit of future operations in the South Pacific. In the message he stated, “Such a line of operations will be offensive rather than passive – and will draw Japanese forces here to oppose it, thus relieving pressure elsewhere, whether in Hawaii, ABDA area, Alaska or even India.”⁷¹ Admiral King understood the interrelatedness of the overall Japanese A2/AD network in terms of the limited resources and assets available. The successful reduction of A2/AD assets through peripheral effects to defeat area denial capability had an overall effect on the enemy’s ability to employ its antiaccess capability against Allied operations throughout the theater. The implication is that US planners need to consider: Peripheral Operations - Marine Corps forces operating at the edges and seams of an antiaccess theater can create gaps and opportunities throughout.

Conclusion

Antiaccess/Area Denial is not a new threat on the battlefield. Yet, like countless tactics in warfare, many analysts conceive of it as a new phenomenon because of recent innovations in its technological aspects. In doing so, they fail to take advantage of the hard learned historical lessons of A2/AD defeat. Specifically, Air Sea Battle envisions an antiaccess environment that overlooks historical precedents in both the character and conduct of the A2/AD fight. Both the proponents of AirSea Battle and the services as a whole need to re-analyze the A2/AD threat and assess their potential contribution to its defeat.

In order for the Marine Corps to honestly examine its role in the antiaccess portion of an A2/AD engagement, it will need to re-evaluate its understanding of the A2/AD environment. If Marine Corps proponents continue to accept the commonly held misconception that A2/AD construct is linear in nature, they will fail to operate in it effectively. By recognizing that

antiaccess and area denial capabilities do not have strict independent parameters in time or space, Marine Corps tacticians can begin to look at the challenges holistically. When viewed from this perspective, the importance of a joint and unified approach to A2/AD defeat becomes evident, even before considering the historical evidence.

In terms of applying Marine Corps capabilities to joint doctrine in regards to the antiaccess portion of A2/AD, AirSea Battle is the only concept that currently addresses it in detail. If Marine Corps amphibious capabilities are to be effectively integrated to antiaccess defeat then they should be significantly included in AirSea Battle. Otherwise, the joint force needs to determine where the contribution of both the Marine Corps and Army are to be included as part of an overall antiaccess defeat strategy.

As a point of departure, the lessons of Guadalcanal provide good insight with respect to potential Marine Corps contributions to antiaccess defeat. Its unique characteristics make it an excellent case study for examining joint A2/AD defeat against a sophisticated high end A2/AD network. For the Marine Corps, it represents an opportunity to consider the specific influence of amphibious operations.

In examining Operation Watchtower and its preceding battles, Coral Sea and Midway, several potential applications for Marine Corps contribution to AirSea Battle present themselves, to include: 1) Shaping Operations - The influence that Marine Corps expeditionary capabilities have on enemy course of action development when establishing their A2/AD network, 2) Interior Operations - The significant disruptive impact on enemy actions of Marine Corps forces forward deployed within the A2/AD network at the start of hostilities, 3) Denial Operations - The ability of rapidly mobile forces to prevent the expansion and development of an enemy A2/AD network, 4) Reduction Operations - The degradation of enemy A2/AD assets through localized

dominance, 5) Peripheral Operations -Marine Corps forces operating at the edges and seams of an antiaccess theater can create gaps and opportunities throughout.

As the Department of Defense restructures following operations in Iraq and Afghanistan, the Marine Corps needs to look at the unique contributions of its amphibious roots. In doing so, it will most likely see the relevance of Marine Corps operations to A2/AD defeat in general, and AirSea Battle, in particular. If the Marine Corps is going to honestly examine its role in the future of how of the US conducts warfare, it cannot ignore AirSea Battle.

End Notes

-
- ¹ Jan Van Tol et. Al., *AirSea Battle: A Point-of-Departure Operational Concept* (Washington, DC: Center for Strategic and Budgetary Assessments, 2010), xi.
- ² Center for Strategic and Budgetary Assessments: AirSea Battle PowerPoint.
- ³ Jan Van Tol et. Al., *AirSea Battle: A Point-of-Departure Operational Concept* (Washington, DC: Center for Strategic and Budgetary Assessments, 2010), 75.
- ⁴ Joint Publication 3-18: Joint Forcible Entry Operations (JFEO). Joint Chiefs of Staff, Washington, DC: 27Nov12.
- ⁵ Jan Van Tol et. Al., *AirSea Battle: A Point-of-Departure Operational Concept* (Washington, DC: Center for Strategic and Budgetary Assessments, 2010), 31.
- ⁶ Ibid, 45.
- ⁷ Jan Van Tol et. Al., *AirSea Battle: A Point-of-Departure Operational Concept* (Washington, DC: Center for Strategic and Budgetary Assessments, 2010), 45.
- ⁸ Joint Operational Access Concept (JOAC) (Version 1.0). Joint Chiefs of Staff, Washington, DC: 17Jan12, Forward.
- ⁹ Gen Martin E. Dempsey, "Release of Joint Operational Access Concept (JOAC)," DoD Live, 17 Jan, 2012. <http://www.dodlive.mil/index.php/2012/01/release-of-the-joint-operational-access-concept-joac>.
- ¹⁰ Ibid, 1.
- ¹¹ Ibid, 6.
- ¹² Ibid.
- ¹³ Ibid.
- ¹⁴ Ibid, 9-11.
- ¹⁵ Jan Van Tol et. Al., *AirSea Battle: A Point-of-Departure Operational Concept* (Washington, DC: Center for Strategic and Budgetary Assessments, 2010), 18-19.
- ¹⁶ Capstone Concept for Joint Operations, Version 3.0. CCJO v3.0. United States Department of Defense, January 15, 2009. http://www.dtic.mil/futurejointwarfare/concepts/approved_ccjov3.pdf.
- ¹⁷ Joint Operational Access Concept (JOAC) (Version 1.0). Joint Chiefs of Staff, Washington, DC: 17Jan12, 14.
- ¹⁸ Peter W. Singer, Micheal E O'hanlan, Adm Jonathan W. Greenert, Gen Norton A. Schwartz. "Air-Sea Battle Doctrine: A Discussion with the Chief of Staff of the Air Force and Chief of Naval Operations" (Transcript, Brookings Institute, Washington, DC, May16, 2012) 9.
- ¹⁹ Ibid, 37.
- ²⁰ Ibid, 11.
- ²¹ Ibid.
- ²² Ibid, 13.
- ²³ Ibid, 19.
- ²⁴ Joint Operational Access Concept (JOAC) (Version 1.0). Joint Chiefs of Staff, Washington, DC: 17Jan12, 4.
- ²⁵ Ibid
- ²⁶ Ibid, 22.
- ²⁷ Ibid, 30.
- ²⁸ John L. Zimmerman, *The Guadalacal Campaign: Marines in World War II Historical Monograph*.
- ²⁹ H.P. Willmott, *The War with Japan: The Period of Balance May 1942 - October 1943* (Wilmington, DE: Scholarly Resources Inc., 2002), xiv,3.
- ³⁰ Ibid, xv.
- ³¹ H.P. Willmott, *The War with Japan: The Period of Balance May 1942 - October 1943* (Wilmington, DE: Scholarly Resources Inc., 2002), 20.
- ³² Richard B. Frank, *Guadalcanal: The Definitive Account of the Landmark Battle* (New York: Penguin Books, 1992), 21.
- ³³ Ibid.
- ³⁴ John B. Lundstrom, *The First Team: Pacific Naval Air Combat from Pearl Harbor to Midway* (Annapolis, MD: Naval Institute Press, 2005), 188.
- ³⁵ Ibid, 135-153, 163-167.
- ³⁶ Ibid, 190.

-
- ³⁷ H.P. Willmott, *The Barrier and the Javelin: Japanese and Allied Strategies, February to June 1942* (Annapolis, MD: United States Naval Institute Press, 2008), 286
- ³⁸ John B. Lundstrom, *The First Team and the Guadalcanal Campaign: Naval Fighter Combat from August to November 1942* (Annapolis, MD: Naval Institute Press, 2005), 92.
- ³⁹ Gordon W. Prange, Donald M. Goldstein, and Katherine V. Dillon, *Miracle at Midway* (New York: Penguin Books, 1983), 22–26.
- ⁴⁰ Jonathan Parshall and Anthony Tully. *Shattered Sword: The Untold Story of the Battle of Midway* (Dulles, VA: Potomac Books, 2005), 19-38.
- ⁴¹ <http://www.militaryhistoryonline.com/wwii/articles/aftermidway.aspx>
- ⁴² Jonathan Parshall and Anthony Tully. *Shattered Sword: The Untold Story of the Battle of Midway* (Dulles, VA: Potomac Books, 2005), 378, 380, 476.
- ⁴³ Ibid, 432, 416-417, 432.
- ⁴⁴ Jonathan Parshall and Anthony Tully. *Shattered Sword: The Untold Story of the Battle of Midway* (Dulles, VA: Potomac Books, 2005), 432.
- ⁴⁵ Ibid, 417.
- ⁴⁶ H.P. Willmott, *The War with Japan: The Period of Balance May 1942 - October 1943* (Wilmington, DE: Scholarly Resources Inc., 2002), 103.
- ⁴⁷ Richard B. Frank, *Guadalcanal: The Definitive Account of the Landmark Battle* (New York: Penguin Books, 1992), 43.
- ⁴⁸ H.P. Willmott, *The War with Japan: The Period of Balance May 1942 - October 1943* (Wilmington, DE: Scholarly Resources Inc., 2002), 104-105.
- ⁴⁹ Ibid, 104.
- ⁵⁰ Ibid.
- ⁵¹ Charles W. Koburger, *Pacific Turning Point: The Solomons Campaign, 1942-1943* (Westport, CT: Praeger Publishers, 1995), 15
- ⁵² Ibid, 16
- ⁵³ Richard B. Frank, *Guadalcanal: The Definitive Account of the Landmark Battle* (New York: Penguin Books, 1992), 42.
- ⁵⁴ Ibid.
- ⁵⁵ Ibid.
- ⁵⁶ Ibid.
- ⁵⁷ Ibid.
- ⁵⁸ John B. Lundstrom, *The First Team and the Guadalcanal Campaign: Naval Fighter Combat from August to November 1942* (Annapolis, MD: Naval Institute Press, 2005), 39.
- ⁵⁹ Richard B. Frank, *Guadalcanal: The Definitive Account of the Landmark Battle* (New York: Penguin Books, 1992), 619-626.
- ⁶⁰ Ibid, 627-629.
- ⁶¹ Ibid, 600.
- ⁶² Ibid.
- ⁶³ Ibid, 601-614
- ⁶⁴ Ibid.
- ⁶⁵ Ibid, 611-615
- ⁶⁶ Ibid, 612
- ⁶⁷ J. D. Philippart, "The Expeditionary Airfield as a Center of Gravity: Henderson Field during the Guadalcanal Campaign," Wright Flyer Paper. 19 (Sept 2004), 8
- ⁶⁸ Ibid, 7-16
- ⁶⁹ Richard B. Frank, *Guadalcanal: The Definitive Account of the Landmark Battle* (New York: Penguin Books, 1992), 61.
- ⁷⁰ Alexander A. Vandergrift, Transcript Interview, 3 February 1943, AHFRA Document 142.052, p. 1.
- ⁷¹ John B. Lundstrom, *The First Team and the Guadalcanal Campaign: Naval Fighter Combat from August to November 1942* (Annapolis, MD: Naval Institute Press, 2005), 52.

Bibliography

- Frank, Richard B. *Guadalcanal: The Definitive Account of the Landmark Battle*. New York: Penguin Books, 1992.
- Koburger, Charles W. *Pacific Turning Point: The Solomons Campaign, 1942-1943*. Westport, CT: Praeger Publishers, 1995.
- Lundstrom, John B. *The First South Pacific Campaign: Pacific Fleet Strategy, December 1941 – June 1942*. Annapolis, MD: Naval Institute Press, 1976.
- Lundstrom, John B. *The First Team: Pacific Naval Air Combat from Pearl Harbor to Midway*. Annapolis, MD: Naval Institute Press, 2005.
- Lundstrom, John B. *The First Team and the Guadalcanal Campaign: Naval Fighter Combat from August to November 1942*. Annapolis, MD: Naval Institute Press, 2005.
- Millett, Allan Reed. *Semper Fidelis: The History of the United States Marine Corps*. New York: Free Press, 1991.
- Parshall, Jonathan and Anthony Tully. *Shattered Sword: The Untold Story of the Battle of Midway*. Dulles, VA: Potomac Books, 2005.
- Philippart, J. D. “The Expeditionary Airfield as a Center of Gravity: Henderson Field during the Guadalcanal Campaign.” Wright Flyer Paper No. 19 (Sep 2004).
- Prange, Gordon W., Donald M. Goldstein, and Katherine V. Dillon, *Miracle at Midway*. New York: Penguin Books, 1983.
- Rasor, Eugene L. *The Solomon Islands Campaign, Guadalcanal to Rabaul: Historiography and Bibliography*. Westport, CT: Greenwood Press, 1997.
- Williford, Glen M. *Racing the Sunrise: Reinforcing America’s Pacific Outpost, 1941-1942*. Annapolis, MD: Naval Institute Press, 2010.
- Willmott, H.P. *The Barrier and the Javelin: Japanese and Allied Strategies, February to June 1942*. Annapolis, MD: United States Naval Institute Press, 2008.
- Willmott, H.P. *The War with Japan: The Period of Balance, May 1942 – October 1943*. Wilmington, DE: Scholarly Resources Inc., 2002.